July 1, 1930. M. RUIZ 1,769,392

DISPENSING DEVICE

Filed May 12, 1928

Fig. 1.

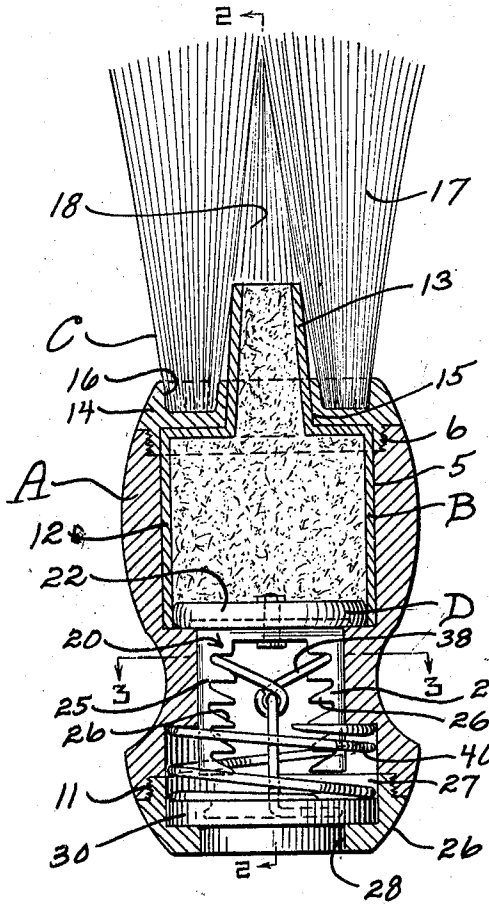


Fig. 2.

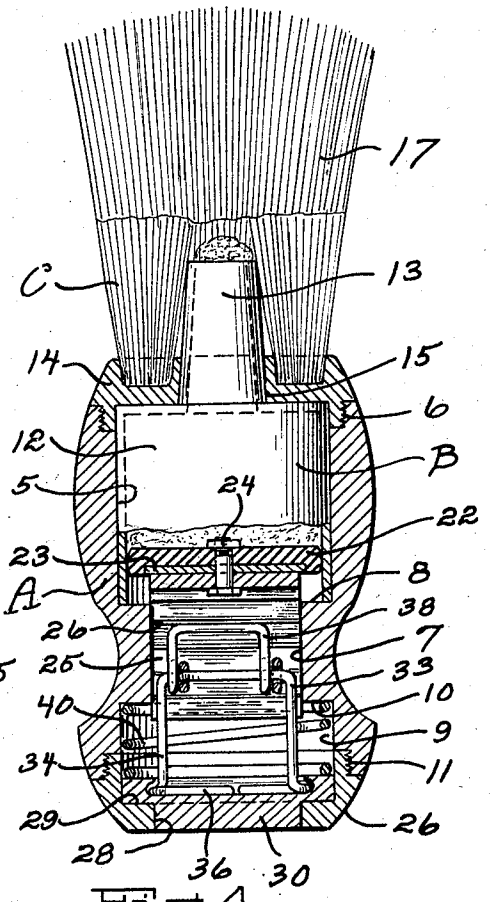


Fig. 3.

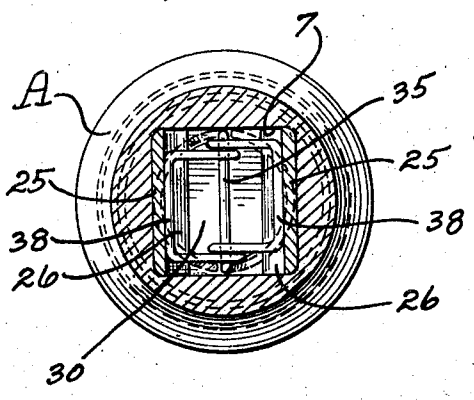
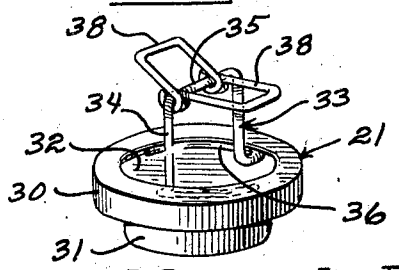


Fig. 4.



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UNITED STATES PATENT OFFICE

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DISPENSING DEVICE

Application filed May 12, 1928. Serial No. 277,361.

The present invention relates to improvements in shaving brushes.

The primary object of the present invention is to provide an improved fountain shaving brush of novel construction for the dispensing of shaving material inwardly of the bristles of the brush in a novel and efficient manner.

A further object of the invention is to provide an improved shaving brush wherein the shaving material is contained in the handle portion of the brush and may be ejected in predetermined quantities inwardly of the brush bristles when desiring to use the brush.

A further object of the invention is to provide a novel fountain shaving brush wherein the handle portion serves to retain a suitable quantity of shaving material and an ejecting means for the shaving material so associated with the handle portion as to permit of free and ordinary use of the brush without accidentally operating the ejecting means during application of the material to one's face preparatory to shaving.

A still further and important object of the invention is to provide an improved fountain shaving brush embodying readily removable sections for allowing ready refilling of the device with shaving material, and also allowing for easy sterilization of the parts when such becomes desirable.

Other objects and advantages of the invention will be apparent during the course of the following detailed description, taken in connection with the accompanying drawing forming a part of this specification and in which drawing:

Figure 1 is a central longitudinal section thru an improved fountain shaving brush constructed in accordance with this invention.

Figure 2 is a central longitudinal section thru the brush on line 2—2 of Figure 1 and showing the ejecting means having been operated for discharging a predetermined quantity of the shaving material inwardly of the bristles of the brush.

Figure 3 is a transverse section on line 3—3 of Figure 1.

Figure 4 is a perspective view of the plunger actuating means engageable by the user for dispensing of the shaving material.

Referring to the drawing in detail, and wherein similar reference characters designate corresponding parts thruout the several views, the letter A designates a handle portion for the brush for removably receiving a reservoir B adapted to be held in position as by the brush proper C, and D may designate as a whole, ejecting means operable for discharging shaving material from the reservoir B into the bristles of the brush proper C.

Referring first to the construction of the handle portion A, the same may be formed of any suitable material such as vulcanized rubber, or of any other suitable material or a composition of materials, and is provided at its forward end with a circular shaped pocket 5 being enlarged at its outer end and screw threaded as at 6. Formed axially of the handle portion at the inner end of the pocket 5, is a guide forming way 7, and which way is preferably of square shape as clearly illustrated in Figure 3. This guide way 7 is of less area than that of the annular pocket 5 and forms a forwardly facing shoulder 8 at the inner end of the pocket. Formed axially of the handle portion at the rear of the guide way 7, is a shallow recess or bore 9 which opens at the rear end of the handle portion and which annular recess is of greater area than that of the way 7 for forming a rearwardly facing shoulder 10 at the inner end of the recess. The outer end of the recess is slightly enlarged and screw threaded as at 11. Thus it will be seen that an opening is formed axially from end to end thru the handle portion as by means of the annular pocket 5, annular recess 9, and the square guide forming way 7 which connects the pocket and recess, with each end of the handle portion being provided with internal threads.

The reservoir B, and which is intended to receive a shaving material preferably in the form of a shaving cream, may be formed of any suitable material such as metal or vulcanized rubber, and embodies an annular cup shaped body portion 12 being open at one end

and provided at its opposite end with a reduced tubular spout or nozzle forming extension 13 arranged co-axially of the body portion 12 and thru which the cream or paste is intended to be ejected upon actuation of the means D. The body portion 12 of the reservoir is of a length substantially equal to the depth of the pocket 5 and is adapted to snugly fit within the pocket and engage at its inner end the annular shoulder 8 which serves for limiting inward movement of the reservoir when inserted into the pocket after being filled with the shaving material.

As to the brush proper, the same preferably embodies an annular shaped base or head 14 provided with a threaded ring-like extension at one side for threaded engagement with the internal threads 6 of the handle portion A. This annular shaped head 14 forms an axially disposed opening 15 which preferably tapers slightly toward the outer side of the head in conformity with the tubular nozzle 13 which, as will be observed, also tapers toward its outer discharge end. The head 14 is of a thickness substantially less than the length of the nozzle 13 so that the nozzle projects for a suitable distance past the outer side of the head as is clearly illustrated in Figures 1 and 2. Arranged concentric with the opening 15 is an annular groove 16, and secured in any suitable manner within this groove are bristles 17 which are arranged in annular formation with certain of the bristles tapering toward the axial center of the group of bristles for providing a substantially closed V-shaped pocket 18 communicating with the discharge end of the nozzle 13. Thus it will be seen that when the head 14 is threaded into the outer end of the pocket 5, that the same serves to removably retain the reservoir B in position within the handle portion with the nozzle 13 projecting thru the head and terminating inwardly of the bristles 17.

Referring now to the novel ejecting means D which when operated, acts to eject predetermined quantities of the shaving material from the reservoir B thru the nozzle 13 inwardly of the brush bristles 17, the same embodies a plunger structure 20 and a plunger actuating means 21.

The plunger structure 20 embodies a disc shaped piston 22 which is preferably formed of a material such as rubber or the like and of a diameter to snugly fit within the annular body portion 12 of the reservoir B. Arranged at the rear side of the piston 22 is a metal reinforcing disc 23, and which disc 23 is of a diameter to engage the shoulder 8 when the plunger structure is in its fully retracted position. Suitably secured to the rear side of the piston 22 as by means of fastening elements 24, is a substantially U-shaped member having parallel side arms 25 provided with flat outer surfaces for slidably engaging two confronting side walls of the square shaped guide way 7. Thus it will be seen that the U-shaped member is held against rotation within the guide way 7 by the flat outer surfaces of the spaced arms 25. Provided at the inner confronting faces of the arms 25 is a series of ratchet teeth 26 which extend thruout the length of the arms and with the ratchet teeth of one arm preferably aligning with the ratchet teeth of the companion arm. These ratchet teeth 26 extend transversely of the arms. It may also be stated, and may be observed by viewing Figure 3, that the arms 25 are of a width equal to the distance between the confronting walls of the guide way 7 so that the U-shaped member is held against lateral shifting in either direction.

Adapted for threaded engagement with the threads 11 at the rear end of the handle portion A, is a ring-shaped cap 26 which when in threaded connection with the handle portion forms a closed chamber 27 at the recess 9. This cap 26 serves as a means for removably retaining the plunger actuating means 21 in position within the chamber 27 for operative engagement with the plunger structure 20. The cap 26 is provided with an axially disposed opening 28 forming an inwardly facing annular shoulder 29 disposed in confronting relation to the annular shoulder 10.

Referring now to the plunger actuating means 21, the same embodies a button 30 for slidably mounting in the chamber 27, and which button is provided with an extension 31 which is adapted to extend thru the opening 28 of the cap 26 with the outer surface of the extension lying flush with the external surface of the cap when the button engages the annular shoulder 29. The inner face of the button is provided with an annular recess 32 the circumferential edge of which is recessed to form an annular groove as clearly illustrated in Figure 2. This annular groove of the recess 32 serves as means for retention of a carrier frame 33 which may be formed of a suitable gauge wire. The carrier frame 33 is of substantially U-shape in formation for providing a pair of arms 34 connected by a cross section 35, and the lower end of each arm 35 is provided with an arcuate shaped portion 36 which is adapted to be sprung into the annular groove of the recess 32 in a manner for removably retaining the carrier frame in position upon the inner side of the button 30 with the arms 34 extending parallel with the axis of the button. Hingedly connected to the cross section 35 of the carrier frame 33 is a pair of co-acting pawl arms 38 which are adapted to co-act with the plunger structure 20 upon depressing the plunger actuating means 21. These pawl arms 38 may be in the form of U-shaped members constructed from lengths of wire

and having their arms looped about the cross section 35 for hingedly connecting the members to the carrier frame. Arranged within the chamber 27 with one end bearing upon the inner face of the button 30 outwardly of the arms of the carrier frame 33 and with its opposite end bearing upon the outwardly facing shoulder 10, is an expansion coil spring 40 which acts for normally retaining the button in seating engagement upon the annular shoulder 29.

In use of the improved fountain shaving brush, the reservoir B may first be filled with a suitable shaving material preferably in the form of a paste, and then inserted into the circular pocket 5 so that the inner open end of the reservoir body portion 12 is closed by the piston 22. The brush proper may then be threaded upon the forward end of the handle portion A as by the head 14 and which head will serve to hold the reservoir in position within the handle portion with the tapering nozzle 13 extending between the bristles 17. The operator may then press the button 30 inwardly against the tension of the spring 40, and which inward pressure on the button will cause the pawl arms 38 to act upon the flat arms 25 in a manner for imparting movement to the piston 22 whereby a predetermined quantity of the paste will be delivered thru the nozzle 13 inwardly of the bristles 17. Upon releasing pressure on the button 30 the spring 40 will move the button outwardly into engagement with the annular shoulder 29 and allow the pivoted pawl arms 38 to ride past one or more of the ratchet teeth 26 and again engage the arms 25 in a manner whereby the plunger structure will be moved further inwardly into the chamber 12 upon a repeated operation of the plunger actuating means 21. Upon retraction of the button 30 the carrier frame 33 will be retracted by reason of the arms 34 being coupled with the button by means of the arcuate shaped arms 36.

It will be observed that the brush is so constructed as to allow for the same to be used in the ordinary manner, and that the operating button for the ejecting means is disposed at the rear end of the handle portion and does not project past the external surface of the handle portion to be accidently engaged for operating the ejecting means during ordinary use of the brush.

From the foregoing description it will be apparent that a novel and efficient type of fountain shaving brush has been provided embodying novel features of construction whereby the brush may be used in the manner of an ordinary type of shaving brush, and one wherein a predetermined quantity of the shaving material may be ejected from the handle portion of the brush inwardly of the brush bristles by the mere inward pressure upon an operating button so arranged in the handle portion as to not become accidently operated during use of the brush.

Various changes may be made to the form of the invention as herein shown and described, without departing from the spirit of the invention or the scope of the following claims.

I claim:

1. A dispensing device comprising a handle portion, a reservoir for shaving material removably fitting in the handle portion and having a discharge nozzle, said reservoir being open at its inner end, a piston slidable in the reservoir, an operating button reciprocally mounted in the handle portion at the rear of said piston, means for normally urging the button outwardly to a retracted position, and means operable upon inward movement of the button for advancing the piston a limited degree of movement in the reservoir.

2. A dispensing device comprising a handle portion, a reservoir for shaving material removably fitting in the handle portion and having a discharge nozzle, said reservoir being open at its inner end, a plunger structure reciprocally mounted in the handle portion including a piston movable in the reservoir and a pair of spaced apart arms having ratchet teeth provided at their confronting faces, an operating button reciprocally mounted in the handle portion at the rear of the plunger structure and having its outer surface flush with the outer surface of the handle portion when in a retracted position, means for normally urging the button to a retracted position, a carrier frame connected with the button and extending between said arms of the plunger structure, and pawls pivotally connected with the carrier frame and engageable with said ratchet teeth for advancing the piston for a limited degree of movement in the reservoir upon each inward movement of the button.

3. A dispensing device comprising a handle portion, a reservoir for shaving material removably fitting in the handle portion and having a discharge nozzle, said reservoir being open at its inner end, a piston slidable in the reservoir, a U-shaped member connected with the piston and having flat, parallel spaced apart arms having ratchet teeth provided at their confronting faces, a button reciprocally mounted in the handle portion at the rear of the handle portion, means for normally urging the button away from said piston, a carrier frame supported at the inner side of the button and having a hinge section extending between said arms of the U-shaped member, and a pair of pawl arms pivotally mounted on the hinge section and engageable with said ratchet teeth for imparting a limited inward movement of the piston upon inward movement of the button.

4. A dispensing device comprising a hollow handle portion, a reservoir for shaving

material removably fitting in the handle portion at the forward end thereof and having a discharge nozzle, said reservoir being open at its inner end, a piston slidable in the reservoir, a U-shaped member connected with the piston and held against rotation within the hollow handle portion, said U-shaped member having a pair of substantially flat, parallel spaced apart arms having ratchet teeth provided at their confronting faces, a cap detachably connected with the rear end of the handle and provided with an opening, a button reciprocally retained in the handle portion by said cap and having a portion extending into the opening in the cap, a coil spring acting upon the inner side of the button for normally urging the same outwardly into engagement with the cap, a carrier frame detachably carried by the inner side of the button and including a hinge section extending parallel with and between the ratchet teeth on said arms, and a pair of U-shaped pawl arms hingedly mounted upon the cross section and engageable with the ratchet teeth for moving the piston inwardly a predetermined distance upon inward movement of said button.

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